

No. 14-02  
JANUARY 2014

# WORKING PAPER

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STATE FISCAL CONDITION  
Ranking the 50 States

by Sarah Arnett



The opinions expressed in this Working Paper are the author's and do not represent official positions of the Mercatus Center or George Mason University.

## **About the Author**

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## **Abstract**

State fiscal condition is multifaceted and difficult to measure. Using a method developed in previous research, I create the cash, budget, long-run, and service-level solvency indices using fiscal year 2012 data to measure the dimensions of fiscal condition. The five states with the highest-ranked overall fiscal condition are Alaska, South Dakota, North Dakota, Nebraska, and Wyoming. The five states with the lowest-ranked fiscal condition are New Jersey, Connecticut, Illinois, Massachusetts, and California. The top five states all had a surplus in fiscal year 2012 as measured by an increase in net assets, but there are differences in their underlying strengths. I find that the states with the worst fiscal condition have had years of poor financial management across the different dimensions of fiscal condition.

*JEL* codes: C8, H7

Keywords: state fiscal condition, fiscal solvency, state financial condition, financial ratios, cash solvency, budget solvency, long-run solvency, service-level solvency

## **State Fiscal Condition:**

### **Ranking the 50 States**

Sarah Arnett

Although the Great Recession has come and gone, states continue to face the repercussions of this recent economic downturn.<sup>1</sup> Multiple outlets that review state finances point to continued difficulties ahead; state tax revenues are still recovering from the recession, tax systems are not structured to collect on services or e-commerce, and there are projected reductions in federal spending on state priorities such as education and infrastructure (Johnson and Leachman 2013; Prah 2013; Dadayan 2012). Fiscal simulations by the Government Accountability Office suggest that despite states' recent gains in tax revenues and pension assets, the long-term outlook for states' fiscal condition is negative (GAO 2013). These simulations predict that states will have yearly difficulties balancing revenues and expenditures due, in part, to rising health care costs and the cost of funding state and local pensions.

The ongoing challenges to state governments' abilities to meet their financial and service obligations underscore the need for a reliable and straightforward method to compare states' finances. Methods to compare states' finances, such as credit ratings, already exist; however, there is still a need for transparent and nuanced measures. Without such methods of comparison, those inside and outside state government are left to wonder about the emerging trends in state finances and how states compare to each other. Recent public administration research suggests that using financial data from Comprehensive Annual Financial Reports

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<sup>1</sup> The "Great Recession" is a term used to describe the nationwide US recession that lasted from December 2007 to June 2009 (National Bureau of Economic Research, "US Business Cycle Expansions and Contractions," <http://www.nber.org/cycles.html>).

(CAFRs) produced by local and state governments is a viable way to compare states' fiscal conditions (Hendrick 2011; Wang, Dennis, and Tu 2007; Chaney, Mead, and Schermann 2002). This paper contributes to that stream of research by applying models of fiscal condition to create indices measuring cash, budget, long-run, and service-level solvency as well as overall fiscal condition at the state level. It also discusses the relative strengths and weaknesses of each solvency index and provides a ranking—based on these indices and using fiscal year 2012 data—of the 50 US states. Finally, the paper discusses the state rankings and what these rankings can tell us about states' fiscal conditions.

## **Literature Review**

### ***State Fiscal Condition***

A definition of fiscal condition needs to be broad enough to capture its different dimensions: liquidity, budgetary balance, reliance on debt to finance current and long-term expenditures, and ability to pay for essential services. Otherwise, comparisons across time and between governments will be difficult. Fiscal condition describes a government's ability to meet its financial and service obligations (Jimenez 2009; Hendrick 2004).<sup>2</sup> If a state is able to meet these obligations, it is in good fiscal condition; if not, it may experience fiscal stress. In general, fiscal condition can include the following elements: the balance between state revenues and expenditures as measured by state surpluses or deficits (Poterba 1994; Hendrick 2004; Kloha, Weissert, and Kleine 2005; Chaney, Mead, and Schermann 2002), tax and spending levels (Poterba 1994; Kloha, Weissert, and Kleine 2005; Chaney, Mead, and Schermann 2002), and debt levels (Hendrick 2004; Kloha, Weissert, and Kleine 2005; Chaney, Mead, and Schermann

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<sup>2</sup> Financial obligations include paying state employees' salaries and interest on outstanding debt and funding pensions. Service obligations include providing sufficient funds for education and health care.

2002). The components of fiscal condition are similar, and in some cases identical, to those used to describe financial condition (Wang, Dennis, and Tu 2007).

Many scholars and practitioners draw on the International City/County Management Association (ICMA) model defined by Groves, Godsey, and Shulman (1981) to explain the components of fiscal and financial condition (Mead 2006; Lewis 2003; Berne 1992; Hendrick 2004; Wang, Dennis, and Tu 2007; Kamnikar, Kamnikar, and Deal 2006; Zafra-Gomez, Lopez-Hernandez, and Hernandez-Bastida 2009; Hendrick 2011; Jacob and Hendrick 2013). This model divides financial condition into four types of solvency: cash, budget, long-run, and service-level.

Each type of solvency measures a different dimension of fiscal condition. Cash solvency concerns a government's liquidity and its ability to pay its bills on time (Groves, Godsey, and Shulman 1981). Cash solvency has a short time frame—30 to 60 days—and reflects the liquidity of a state government and the effectiveness of its cash management system (Wang, Dennis, and Tu 2007; Hendrick 2011; Jacob and Hendrick 2013). Budget solvency concerns a government's ability to meet the current year spending obligations without causing a deficit (Groves, Godsey, and Shulman 1981). This type of solvency has a mid-range time frame, often one fiscal year, and may reflect the fiscal institutions within a state. For example, states with stricter balanced budget requirements may be more adept at balancing their budgets and achieving better budget solvency (Hou and Smith 2010).<sup>3</sup> Long-run solvency is a government's ability to pay for all its costs, including those that may occur only every few years or many years into the future (Groves, Godsey, and Shulman 1981). While cash and budget solvency look at short-term financial

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<sup>3</sup> Balanced budget requirements are rules that govern state financial operations (Hou and Smith 2006). These rules include, but are not limited to, the following: the governor must submit a balanced budget, the legislature must pass a balanced budget, the governor must sign a balanced budget, and the state may not carry a deficit into the next fiscal year or biennium. Research on the effect of these budget rules varies, but indicates that balanced budget rules have a significant impact on state deficit levels (Hou and Smith 2006, 2010; Poterba 1994). A recent review of state constitutions and statutes shows that all but one state, North Dakota, have some form of balanced budget rules, although the interpretation and application of these rules may vary significantly from state to state (Hou and Smith 2006).

management, long-run solvency looks at a government's management of longer-term obligations, such as meeting pension obligations to current and future retirees. Service-level solvency is a government's ability to provide and pay for the level and quality of services required to meet a community's general health and welfare needs (Groves, Godsey, and Shulman 1981). Service-level solvency is determined by a number of factors, both current and future (Jacob and Hendrick 2013). For example, the size of a state's revenue base and its political leaders' willingness to collect revenues can impact service-level solvency. Related to the level and quality of services, a state's current and future decisions about which basic services to provide will impact service-level solvency. Similarly to long-run solvency, service-level solvency depends on both current and future decisions and fiscal environments.

### ***Measurement of State Fiscal Condition***

Even with a definition of fiscal condition, determining the appropriate way to measure it is difficult. The drive to measure fiscal condition arose in the 1970s after several municipalities faced bankruptcy and other fiscal problems. Public administration researchers quickly realized that measuring this concept was challenging (Bahl 1984; Benson, Marks, and Raman 1988), as it was poorly defined and difficult to measure directly. Measurement methods depended on data availability, researcher's preferences, and the unit of analysis. As a result, despite 30 years of research at the local level and nearly as many at the state level, there is no single accepted measure of fiscal condition (Jimenez 2009).

Measures of fiscal condition often focus on one dimension. For example, using the year-end unreserved budget balance as a measure of fiscal condition is common (Jimenez 2009; Rubin and Willoughby 2009; Chaney, Mead, and Schermann 2002). This measure provides a sense of a state's

budget solvency, but not its cash, long-run, or service-level solvency. The tendency to focus on one dimension of fiscal condition, often budgetary solvency, leads to multiple measures of fiscal condition, none of which provides a comprehensive understanding of a state's fiscal condition.

Using the four types of solvency allows us to measure each dimension of fiscal condition. Given the definition of state fiscal condition as a government's ability to meet its financial and service obligations, budget, cash, and long-run solvency allow us to measure a government's ability to meet its short-, medium-, and long-term financial obligations while service-level solvency provides a measure of a government's ability to meet its service obligations. Short-term and medium-term financial obligations, for example, can include accounts payable such as state employee wages or contracts. Long-term financial obligations include pensions and capital asset replacement. Service obligations can include public safety services and education.

Financial indicators are increasingly being used to measure state and local fiscal conditions (Chaney, Mead, and Schermann 2002; Kamnikar, Kamnikar, and Deal 2006; Wang, Dennis, and Tu 2007; Hendrick 2011). When taken from state and local CAFRs, financial indicators use audited financial data that allow researchers to analyze the condition of an entire government. There are many different possible financial indicators, and they can be combined in multiple ways (Chaney, Mead, and Schermann 2002; Kamnikar, Kamnikar, and Deal 2006; Clark 1977; Howell and Stamm 1979; Morgan and England 1983). Wang, Dennis, and Tu (2007) use 11 financial indicators to measure cash, budget, long-run, and service-level solvencies at the state level. They find that these indicators accurately measured each type of solvency, and that they correlated in the expected direction with a set of socioeconomic variables. This paper uses the model outlined by Wang, Dennis, and Tu (2007) but updates it with fiscal year 2012 data and weights the solvency indices to create a comprehensive fiscal condition index.

### ***Ranking State Fiscal Condition***

Rankings based on fiscal condition require choices about how to aggregate measures, the weights to apply to these measures, and how to measure difficult concepts such as public demand (Hendrick 2004; Ross and Greenfield 1980; Jimenez 2009; Brown 1993; Kloha, Weissert, and Kleine 2005). These three considerations, and how they will be addressed in this analysis, are discussed below.

A fundamental concern for researchers measuring fiscal condition is whether to use a single, comprehensive measure that combines different dimensions of solvency or whether each dimension of fiscal condition should be defined and measured separately. Hendrick (2004) notes that since governments may have different levels of solvency, combining different dimensions of financial condition could be misleading. Rather, Hendrick (2004) proposes constructing the dimensions separately and then assessing how governments perform on each. Wang, Dennis, and Tu (2007) use both a set of indices measuring cash, budget, long-run, and service-level solvency and a single index that combines the underlying financial indicators with equal weights to create a composite measure of financial condition. Brown (1993) and Kloha, Weissert, and Kleine (2005), in their models to predict local government fiscal stress, use multiple measures to arrive at a single score with which to assess a local government's fiscal condition. Despite the persistence of researchers using a single measure, many have noted the difficulty of measuring a multidimensional concept such as fiscal condition with a single measure or a composite measure (Jimenez 2009; Ross and Greenfield 1980). The research points to the usefulness of a comprehensive measure of fiscal condition, but also to the need for care in constructing this composite measure. This analysis presents both the individual solvency scores and a comprehensive fiscal condition score to allow readers to view the separate dimensions while also providing a comprehensive index with which to rank the states.



With a comprehensive measure of fiscal condition, setting the correct weights on the underlying components is critical to creating a reliable measure. The different time frames of the cash, budget, long-run, and service-level solvency indices, which represent the multiple dimensions of fiscal condition, drive the need to weight them with an eye to reliability (Hendrick 2004, 2011). Cash solvency is a short-term component of fiscal condition, while budget solvency has a slightly longer time frame: the course of a fiscal year. Long-run and service-level solvency are mostly long-term measures of fiscal condition; however, they are essentially estimates of what will happen in the future based on current conditions (Jacob and Hendrick 2013). Since solvency indices differ in terms of their time horizons, these issues must be kept in mind when constructing a single index of fiscal condition.

A continuing difficulty in the measurement of fiscal condition is how or even whether to attempt to measure public demand for government goods and services. To deal with this challenge, researchers have used per capita income as a proxy for public demand or have developed complex models to determine public demand levels in different localities (Hendrick 2004; Ladd and Yinger 1989). Chaney, Mead, and Schermann (2002) propose assessing a government's ability to pay for services. Focusing on the ability to meet service obligations attempts to avoid penalizing a government for not providing "enough" services when in fact residents in that area may desire a lower level of services than residents of other states. Financial indicators measure factors such as revenue burden, tax burden, and the cost of providing current goods and services that influence a government's ability to provide those goods and services.

As the next section will discuss, the weighting scheme used to create the fiscal condition index addresses the concerns over the combination of different types of solvencies, time frames, and measurements of public demand for goods and services.

## Data and Methods

### *Data*

This analysis uses data from CAFRs for all 50 states for fiscal year 2012.<sup>4</sup> Two financial statements in each CAFR—the statement of net assets and the statement of activities—provide government-wide financial information. The statement of activities reports all the revenues collected and the costs of providing government activities; the statement of net assets reports on current financial assets and liabilities, capital assets, and long-term liabilities (Mead 2006). All values taken from the CAFRs are for the total primary government and include governmental activities and business-type activities. Population data estimates for 2012 are from the US Census Bureau’s Population Division.

Collecting data on government-wide indicators only recently became possible. Governmental Accounting Standards Board Statement No. 34, *Basic Financial Statements—and Management’s Discussion and Analysis—for State and Local Governments*, issued in 1999, required governments to use a new financial reporting model that included consolidated government-wide financial statements that use the full accrual basis of accounting (Plummer, Hutchinson, and Patton 2007). These new requirements, particularly the production of the statement of activities and the statement of net assets, make the use of financial ratios for cross-state comparison feasible.

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<sup>4</sup> As of August 31, 2013, New Mexico had not issued its fiscal year 2012 CAFR, so we used data from New Mexico’s fiscal year 2011 CAFR. Five of the financial indicators (surplus per capita, long-term liability per capita, tax per capita, revenues per capita, and expenses per capita) are not presented as ratios. Since the rankings include both fiscal year 2011 and 2012 data, we used the consumer price index for all urban consumers to adjust the data from fiscal year 2011 for inflation. All reported values are in 2012 dollars.

## ***Method***

The financial indicators used in this analysis were chosen based on their past use to measure states' financial conditions as well as data availability. Wang, Dennis, and Tu (2007) operationalize the cash, budget, long-run, and service-level solvency definitions introduced by Groves, Godsey, and Shulman (1981) using 11 financial indicators: cash ratio, quick ratio, current ratio, operating ratio, surplus (deficit) per capita, net asset ratio, long-term liability ratio, long-term liability per capita, tax per capita, revenue per capita, and expenses per capita.<sup>5</sup> Table 1 (page 31) lists each financial indicator, its definition, the interpretation of its value, and the solvency index (dimension) to which it contributes.

To accommodate adding these various indicators together, I transform five of the financial indicators by taking the inverse of the original variable, so that higher values denote higher solvency.<sup>6</sup> I standardize all the financial indicators to allow a meaningful comparison.<sup>7</sup> Finally, I create the solvency indices by adding together the underlying standardized financial indicators described in table 1. The analysis includes all states. Table 2 (page 32) contains the descriptive statistics of the 11 financial indicators, which are discussed below.

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<sup>5</sup> Other financial ratios are proposed in the literature and are available using state government financial statements in CAFRs. Kamnikar, Kamnikar, and Deal (2006) propose three measures to assess state financial condition: cash quick ratio (cash + cash equivalents + investments / current liabilities), debt to asset ratio (total liabilities / total assets), and continuing services ratio (unrestricted net assets / expenses). Chaney, Mead, and Schermann (2002) list six financial ratios to measure local government financial condition, including cash ratio, operating ratio, and long-term debt/total assets. In sum, multiple financial ratios exist, and all measure some component of a government's financial condition. The value of using those proposed by Wang, Dennis, and Tu (2007) is that these financial ratios are linked to each of the four dimensions of solvency.

<sup>6</sup> Long-term liability ratio, long-term liability per capita, tax per capita, revenue per capita, and expenses per capita indicate a lower level of solvency the higher the value. The other six financial indicators indicate a higher level of solvency the higher the value. When aggregating these values and comparing between the different indices, it is necessary that a higher value have the same meaning for all financial indicators. To ensure this outcome, we took the inverse of the five ratios listed at the beginning of this footnote. By taking the inverse, a higher value on these five indicators indicates a higher level of solvency.

<sup>7</sup> I standardize the 11 financial indicators by converting them into z scores, such that each group of indicators now has a mean of zero and a standard deviation of one. As z scores, the financial indicators have the same scale and can easily be compared to one another in addition to being added together to create each solvency index. Z scores are sensitive to outliers, as is demonstrated in the standardized values for the cash, current, and quick ratios. Alaska may be considered an outlier in each of these ratios and therefore has a much higher standardized value than the next-highest state does.

*Cash solvency.* Three indicators comprise the cash solvency index: the cash, quick, and current ratios. For these ratios, a higher value means a state has more current assets available to cover current liabilities. As defined by Groves, Godsey, and Shulman (1981, 6), cash solvency is a “government’s ability to generate enough cash or liquidity to pay its bills.” The cash ratio includes only the most liquid of current assets, with the quick and current ratios including increasingly less liquid current assets. These three indicators provide a sense of how liquid a government is, implying its ability to pay off current liabilities. As table 2 shows, the mean of the cash ratio is 2.03 and the standard deviation is 1.99. The cash ratio is the most conservative of the liquidity measures because it includes only the most liquid assets. A mean of 2.03 suggests that states, on average, maintain sufficient cash, cash equivalents, and investments to pay for current liabilities.

The mean of the quick ratio is 2.87 and the standard deviation is 2.14. A quick ratio greater than 1 is the commonly accepted standard for sufficient cash reserves (Finkler 2005), and 45 states have quick ratios greater than 1. This statistic suggests that at the end of fiscal year 2012, most states had sufficient cash reserves. The mean of the current ratio is 3.07 and the standard deviation is 2.13. The rule of thumb for sufficiency equals a current ratio of 2.0 (Finkler 2005). As with the quick ratio, most states—35—achieved sufficiency in 2012. This finding suggests that more than half the states were in a position to meet their short-term obligations.

*Budget solvency.* Two financial indicators make up the budget solvency index: operating ratio and the surplus (or deficit) per capita. Since budget solvency is a state’s “ability to generate sufficient revenues over its normal budgetary period to meet its expenditure obligations and not incur deficits” (Groves, Godsey, and Shulman 1981, 6), both of these indicators concern the balance between revenues and expenses. The operating ratio is calculated as total revenues

divided by total expenses. The surplus (or when the value is negative, deficit) per capita is calculated using the change in net assets divided by state population.<sup>8</sup> The mean operating ratio is 1.04 and the standard deviation is 0.09. An operating ratio greater than 1, which 36 states have, indicates that a state can cover all its expenses within a year with its current year revenues. The mean surplus per capita is \$364.20 with a standard deviation of \$1,019. These figures indicate a great deal of variation in surpluses and deficits among the states. Thirteen states had deficits in 2012. As with the cash solvency index, this index is relatively straightforward to measure using state financial data. Using the change in net assets to measure surplus or deficit allows for consistency across states. Budget surplus or deficit figures often are produced by each state's budget office and may reflect different assumptions and budget practices.

*Long-run solvency.* Three indicators measure long-run solvency: net asset ratio,<sup>9</sup> long-term liability ratio, and long-term liabilities per capita. Long-run solvency is the “long-run ability of a government to pay all the costs of doing business, including expenditure obligations that normally appear in each annual budget, as well as those that show up only in the years in which they must be paid” (e.g., replacement of capital assets, pension costs, etc.) (Groves, Godsey, and Shulman 1981, 6). A higher net asset ratio indicates a better ability to meet and pay long-run obligations (Wang, Dennis, and Tu 2007). Higher values for the long-term liability ratio and for long-term liability per capita denote a higher long-term liability load of a state and indicate potentially greater difficulty paying the liability off. The mean net asset ratio is 0.01, with a

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<sup>8</sup> Net assets indicate the resources a government has to provide goods and services after its debts are paid. Change in net assets represents whether a government had a deficit or surplus within the fiscal year. When total revenues exceed total expenses, a government sees an increase in net assets or a surplus. When total expenses exceed total revenues, a government sees a decrease in net assets or a deficit (Mead 2001).

<sup>9</sup> Since a government cannot use all resources in the “net assets” line item, it is further divided into three categories. These are net assets invested in capital assets: net of related debt, restricted assets, and unrestricted net assets (Mead 2001).

standard deviation of 0.39. The mean long-term liability ratio is 0.41, with a standard deviation of 0.39. The mean long-term liability per capita is \$2,689, with a standard deviation of \$2,029. Long-term liability per capita differs greatly among states, although it is less sensitive to economic trends.

*Service-level solvency.* Three measures also compose the service-level solvency index: tax per capita, revenue per capita, and expense per capita.<sup>10</sup> Service-level solvency measures “whether a government can provide the level and quality of services required for the general health and welfare of a community” (Groves, Godsey, and Shulman 1981, 6). As mentioned previously, service-level solvency is the most difficult solvency to measure. Although this analysis focuses on states’ abilities to meet service obligations as opposed to determining whether states are providing appropriate service levels, isolating the most appropriate measures is not straightforward. Many factors not captured by financial data may affect a state’s ability to meet its service obligations. These factors include an increase in residents’ demand for services, state policymakers’ reluctance to increase tax rates, or the tax base’s reluctance to fund service increases. The first two indicators, tax and revenue per capita, assess the revenue and tax burden on state residents. Expense per capita assesses the cost of providing services to state residents

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<sup>10</sup> Revenues include general revenues (taxes, grants, investment earnings, and unrestricted aid from other governments, including federal aid) and program revenues (charges for services and grants or contributions). Revenues can include both ongoing revenue sources such as property or income taxes and special or extraordinary items that represent unusual and/or infrequent sources of revenue (Mead 2001). Including special and/or extraordinary items in total revenue to measure a state’s service-level solvency provides a complete picture of the revenues available in a single year. However, total revenues are not used for the budget solvency index because special and extraordinary items may misrepresent a state’s ability to balance its budget on an ongoing basis. Taxes per capita, a subset of revenues per capita, include both general use taxes and dedicated taxes, such as motor fuel taxes. Expenses represent the full costs of providing government services (Mead 2001). States detail the expenses by function to show how much was spent in a fiscal year on different services, such as general government, public safety, and education. The “expenses per capita” figure used in this paper includes the expenses in fiscal year 2012 for the entire primary government, including governmental activities and business-type activities.

(Wang, Dennis, and Tu 2007). As it is operationalized, a higher value on these three indicators suggests lower overall service-level solvency. Higher values suggest higher revenues and tax burdens (and less room for increases) and higher costs of providing services. The mean tax per capita is \$2,671, and the standard deviation is \$1,361. The mean revenue per capita is \$6,093 with a standard deviation of \$2,433. Finally, expense per capita has a mean of \$5,798 and a standard deviation of \$1,797.

*Fiscal condition index.* The fiscal condition index is the summation of each individual solvency index value weighted based on time frame and the reliability of underlying measures. Wang, Dennis, and Tu (2007) created a financial condition index by averaging the 11 financial indicators. This method, which applied equal weights to all indicators, does not take into account the different time frames of the indicators and the imprecision of the indicators comprising the long-run and service-level solvency indices, as discussed below. This paper takes the financial indicators and solvencies created by Wang, Dennis, and Tu (2007) and applies weights to reflect the issues highlighted by Hendrick (2011) and Jacob and Hendrick (2013).<sup>11</sup>

Time is the main source of imprecision found in the long-run and service-level solvency indices (Hendrick 2011; Jacob and Hendrick 2013). As Jacob and Hendrick (2013) discuss, long-run and service-level solvency depend on how governments will act in the future, which is unknown at the current time. Service-level solvency may depend on a decision a state makes

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<sup>11</sup> The weights applied in this paper are based on my judgment. These weights are not used in other literature on this issue, nor do they stem from quantitative analysis. As discussed in this section of the paper, Wang, Dennis, and Tu (2007) use equal weights in adding the individual solvency indices to create a financial condition index. However, based on subsequent research that considers the cash, budget, long-run, and service-level solvencies and their use in describing financial condition at the state and local levels, this paper discounts the long-run and service-level solvencies. This discounting reflects both concerns about the underlying measures that comprise these indices and the difficulty of valuing these indices in the present when future policy decisions could dramatically change their values.

about its tax structure (tax rates or the type of taxes collected) or the level and cost of services provided (service needs and political/resident demand for services) (Jacob and Hendrick 2013). By contrast, budget and cash solvency are easier to treat as static given their shorter time frames.

An additional concern with long-run solvency is the sensitivity of pension funding levels to economic conditions and the accuracy of states' reporting on their pension obligations.

According to a recent survey by Standard & Poor's Rating Services (2013), the 50-state average funded ratio of pension funds declined each year from 2008 through 2011. These findings support research suggesting that when faced with poor fiscal conditions, as happened in 2008 and 2009, states are likely to underfund pensions to free up funds for other uses (Chaney, Copley, and Stone 2002). States are also more likely to change accounting practices to make pensions appear better funded than they actually are (Chaney, Copley, and Stone 2002).

Further concerns about how to measure service-level solvency and interpret its underlying financial indicators affect the weights used in this analysis. The difficulty measuring service-level solvency is due, in no small part, to what it is trying to measure. The level and quality of services a government should provide are highly variable, depending on political and taxpayer preferences. Higher taxes and revenue per capita suggest a higher tax and revenue burden on state residents. Higher taxes per capita suggest that the government is already providing an expensive level of services; as such, its ability to provide more services due to a change in economic condition or demographics is more difficult because there is less room for tax increases. Similarly, a state with high expenses per capita may not be allocating resources in the most efficient or productive manner, leaving it vulnerable if service demands increase. However, low levels of taxes or revenues per capita may be due to a recession or an inefficient tax regime, not a system with room to adapt to new service demands. Given these considerations,



I applied the following weights to construct the comprehensive fiscal condition index:  $(0.35 \times \text{cash solvency}) + (0.35 \times \text{budget solvency}) + (0.2 \times \text{long-run solvency}) + (0.1 \times \text{service-level solvency})$ .<sup>12</sup> Because of the difficulty in objectively measuring service-level solvency and its imprecision due to future unknowns, it has the lowest weight of the four solvency indices.

Using these weights, I calculated a fiscal condition index score by multiplying the weights with a state's solvency scores. For example, Missouri has a cash solvency score of 1.15, a budget solvency score of  $-0.68$ , a long-run solvency score of 0.25, and a service-level solvency score of 3.81. Applying the weights— $(0.35 \times 1.15) + (0.35 \times -0.68) + (0.2 \times 0.25) + (0.1 \times 3.81)$ —results in a fiscal condition index score of 0.60 for Missouri.

*Index reliability.* The financial indicators making up each of the cash, budget, long-run, and service-level solvency indices are highly correlated at a significant level, as table 3 shows (page 33).

The correlations between the three cash solvency index financial indicators—the quick ratio, current ratio, and cash ratio—are high and statistically significant. For the budget solvency index, the operating ratio and surplus per capita are highly correlated at a statistically significant level. For the long-run solvency index, the financial indicators are also highly correlated at a statistically significant level, although the correlation is negative between the net asset ratio and the other two financial indicators. The correlation is negative because while a higher net asset

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<sup>12</sup> Applying equal weights (0.25) to the cash, budget, long-run, and service-level indices to create the fiscal condition index caused 16 states to move by five or more places in the rankings. Most of the states that moved far in the rankings were outside the top and bottom 10 states. Alaska was still the state with the strongest fiscal condition, and New Jersey was still the state with the weakest fiscal condition. Those states that moved the most in the rankings—Wisconsin moved down 11 spots and North Dakota moved down 12 spots—both had strong budget scores, and North Dakota had a strong cash score. Wisconsin had low long-run and service-level scores and North Dakota had a very low service-level score. The low service-level scores, in particular, account for the lower rankings for Wisconsin and North Dakota when applying equal weights.

ratio suggests greater long-run solvency, a higher long-term liability ratio and long-term liability per capita suggest less long-run solvency. As mentioned earlier, the long-term liability ratio and long-term liability per capita are transformed such that a higher score suggests greater solvency, before being added to the net asset ratio, to allow for the creation of the long-run solvency index. The three financial indicators comprising the service-level solvency index are also highly correlated at a statistically significant level.

Table 4 (page 33) shows the correlation and significance of the association between each of the solvency indices. The individual solvencies should be related since they are all supposed to measure fiscal condition. For the most part, the association between each index is as expected.<sup>13</sup> Cash solvency is positively correlated with budget solvency, so states with greater liquidity are also more likely to have balanced revenues and expenses. Both cash and budget solvency are positively correlated with long-run solvency, indicating that states with higher cash and budget solvency have higher long-run solvency (and lower long-term debt levels). The association between service-level solvency and the other three solvencies is less clear. There is a negative correlation between service-level solvency and budget solvency. The data suggest that states with higher budget solvency have lower service-level solvency, suggesting that states with better budget balance have higher taxes per capita, expenses per capita, or revenue per capita. These possibilities seem plausible, as states with more revenue—even with higher expenses—are able to balance their annual budgets. However, achieving better budget solvency may come at the cost of service-level solvency. States with high budget solvency but lower service-level

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<sup>13</sup> An additional measure of the reliability used by Wang, Dennis, and Tu (2007) in their analysis of these 11 financial indicators as a measure of financial condition is Cronbach's alpha, which measures the internal consistency of a set of items. Using fiscal year 2012 data, the Cronbach's alpha for the standardized values of these 11 financial indicators is 0.857 (including all 50 states). This value is slightly higher than that found by Wang, Dennis, and Tu (2007) using fiscal year 2003 data (0.813) and suggests a moderately acceptable degree of internal consistency.

solvency may have difficulty meeting the cost for increased services in the event of an increase in public demand for services.

Credit ratings are a comprehensive measure of a state's fiscal environment and health. Standard & Poor's Rating Services uses five factors to assess a state's creditworthiness: government framework, financial management, economy, budgetary performance, and debt and liability profile (2011). Of the five factors, budgetary performance and the debt and liability profile have the most overlap with, and provide an interesting comparison to, our fiscal condition index.<sup>14</sup> Using the Standard & Poor's 2012 rankings, there is a statistically significant positive correlation of 0.46 between the fiscal condition index and state credit ratings (Pew Charitable Trusts 2012).<sup>15</sup> This significant positive correlation suggests that the fiscal condition index is measuring similar concepts to the credit rating. However, as the factors assessed by Standard & Poor's illustrate, the credit rating has a much broader range—including demographics and fiscal structure—than the fiscal condition index used in this analysis.

## Results

Ranking the states by each index provides a snapshot of state fiscal conditions in fiscal year 2012.<sup>16</sup> Indeed, each state's position in the rankings reflects the interaction and feedback of a state's political environment, rules and laws, and external conditions (Alt and Lowry 1994, 2000;

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<sup>14</sup> According to Standard & Poor's ratings methodology for states, budgetary performance includes budget reserves, liquidity, tax/revenue structure, revenue forecasting, service levels, and structural performance. The debt and liability profile includes debt burden, pension liabilities, and an OPEB (other post-employment benefits) risk assessment.

<sup>15</sup> Using the fiscal condition index with equal weightings yields a nearly identical correlation with Standard & Poor's Rating Services 2012 credit ratings ( $R = .464$  and  $p = .0007$ ) as the correlation between the credit ratings and the fiscal condition index with unequal weights.

<sup>16</sup> The fiscal year for most states is July 1 to June 30. Four states use different fiscal years. Alabama and Michigan follow fiscal years that run from October 1 to September 30. New York's fiscal year runs from April 1 to March 31. Texas's fiscal year runs from September 1 to August 31.

Poterba 1994, 1996; Besley and Case 2003; Calcagano and Escaleras 2007; Hou and Smith 2010; Hendrick 2011). For example, budget solvency scores may reflect how balanced budget rules compel states to balance their revenues and expenditures each fiscal year (Hou and Smith 2010; Poterba 1994). At the same time, long-run solvency scores may reflect policy decisions to fund or underfund pension obligations in order to meet current year expenses (Chaney, Copley, and Stone 2002). As this example demonstrates, achieving a high value in one solvency may occur at the expense of a lower value in another solvency. In other cases, a solvency index score may reflect an underlying weakness in a state's fiscal environment or in the management of that fiscal environment.

Table 5 (page 34) shows the rankings for states based on their cash solvency scores. While the index scores differ by fewer than three points at the low end of the rankings, there is a wide range of scores for those states with the top five scores (Alaska, Ohio, South Dakota, Florida, and Montana). Alaska stands out with a standardized cash solvency score around 15. This high cash solvency value is due to the high cash ratio, quick ratio, and current ratio values for Alaska (all around 13, compared to the 50-state average of between two and three for these financial indicators).<sup>17</sup> Alaska maintains a high cash balance to accommodate the quarterly volatility of its main revenue source, petroleum tax revenue. As explained in the state CAFR, while quarterly expenditures are relatively consistent, the amount of quarterly revenue is not. In an effort to prevent a cash deficit from one financial quarter to the next, Alaska routinely keeps a large cash balance on hand to accommodate this volatility. On the other end of the rankings,

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<sup>17</sup> Alaska is an outlier in the cash solvency index, with a standardized value three times greater than that of the next highest state (Ohio, with a value of 5.41). Creating the cash solvency index without Alaska results in the same overall ranking but a different range of cash solvency values. With Alaska omitted, Ohio has the highest standardized cash solvency score, 8.34, and Illinois has the lowest standardized score, -3.42.

despite improvements in its economic conditions, California still ranks near the bottom in cash solvency. The state CAFR points to continuing cash and budgetary shortfalls in fiscal year 2012.

Table 6 (page 35) shows the state rankings based on budget solvency scores. As with cash solvency, there is more variability in scores at the top of the rankings than at the bottom. Two of the top-ranked states, Alaska and North Dakota, have benefited from increased revenues due to natural resource extraction and higher oil prices. Higher than average budget surpluses per capita along with operating ratios above the 50-state average reflect these economic conditions. New Jersey was ranked at the bottom in budget solvency, largely due to a decrease in net assets of \$6.4 billion. According to the state CAFR, despite improvements in tax revenues in fiscal year 2012, New Jersey has still not returned to the revenue levels it achieved before the recession.

Table 7 (page 36) shows the state rankings based on long-run solvency scores. Nebraska leads the rankings at number one. According to the state's CAFR, Nebraska is constitutionally prohibited from incurring debt. As such, the long-term liabilities reflected in Nebraska's long-run solvency score are mainly due to claims payable for worker's compensation, Medicaid claims, and other employee-related items. With no significant bond debt, Nebraska has a much lower long-term liability per capita and a much lower long-term liability ratio than most other states.

At the bottom of the rankings are New Jersey and Illinois. New Jersey faces long-run solvency problems due in part to nearly 15 years of underfunding its state and local pensions. It has an estimated unfunded pension liability of around \$25.6 billion as well as \$59.3 billion in unfunded liabilities for the health benefits of retired teachers, police, firefighters, and other government workers (State Budget Crisis Task Force 2012). Illinois has also underfunded its public pensions, resulting in an estimated state retirement system combined unfunded liability of \$96.8 billion as of 2012 (Illinois Commission on Government Forecasting and Accountability

2013).<sup>18</sup> To cover the costs of its pension obligations, Illinois has also sold bonds to cover its annual contributions—60 percent of Illinois’s total outstanding debt is in pension bonds (State Budget Crisis Task Force 2012). In essence, Illinois is using long-term debt instruments to meet current year pension obligations.

Table 8 (page 37) shows the state rankings based on service-level solvency. Comparing the top-ranked Nevada to the bottom-ranked Alaska provides some insight into the difficulties in interpreting this solvency index. Nevada has relatively low values for taxes per capita (\$1,492), revenues per capita (\$3,393), and expenses per capita (\$3,266) when compared to the 50-state averages shown in table 2. As applied to service-level solvency, these low values are interpreted as allowing room for future growth in taxes or services as needed—meaning Nevada has a better expected ability to pay for services. Nevada’s reliance on sales and gaming taxes and not on a state income tax is seen as evidence of state flexibility to add tax bases and revenues as needed to accommodate potential future demand. Alaska, by contrast, has relatively high values for taxes per capita (\$9,825), revenues per capita (\$19,137), and expenses per capita (\$13,873). These per capita figures conceal the fact that Alaska has neither a state personal income tax nor a sales tax. Indeed, the lack of these two taxes suggests that Alaska has quite a bit of flexibility in increasing taxes, if needed. Also, Alaska’s relatively small population coupled with its lucrative natural

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<sup>18</sup> The method used to calculate a state’s unfunded pension liabilities is a point of much discussion. The controversy centers on how to determine the appropriate discount rate, which is the interest rate used to determine the future value of pension assets (Norcross 2013). The unfunded pension liabilities presented in this section of the paper come from state estimates. State pension liabilities are commonly thought to be underestimated (Moody’s Investors Service 2012). State pension plans currently set their own rate-of-return and discount-rate assumptions, resulting in underestimated liabilities that are difficult to compare between states (Moody’s Investors Service 2012). To address this difficulty, Moody’s Investors Service, a credit rating agency, proposed that state pension plans use a common rate of return/discount rate based on a high-grade bond index. Changing the discount rate in accordance with Moody’s proposal would result in higher estimated unfunded liabilities than most states currently report. For example, using Moody’s new methodology, Illinois’s estimated unfunded pension liability would be over \$200 billion (Dabrowski 2013). When New Jersey’s unfunded pension liability is calculated using a method consistent with private-sector accounting standards, the state’s unfunded liabilities rise to over \$173 billion (Norcross and Biggs 2010). For the purposes of calculating the long-run solvency index, this paper uses the total long-term liabilities figure reported in state CAFRs, which includes pension liabilities.

resource taxes result in higher per capita revenue and tax values. While both states could theoretically use state income taxes or, in Alaska's case, a state sales tax to increase tax revenues to provide additional services, there may be no political will or resident demand to do so.

Table 9 (page 38) shows the state rankings based on fiscal condition with all four dimensions taken into account. To understand the meaning of the fiscal condition scores, we need to look at the underlying solvency scores. Tables 10 and 11 (pages 39 and 40) compare the underlying strengths and weaknesses of the top and bottom five states. Table 10 shows the underlying financial indicators for the top five performers—Alaska, South Dakota, North Dakota, Nebraska, and Wyoming.

These states all had a surplus in fiscal year 2012 as measured by an increase in net assets, but there are differences in their underlying strengths. Nebraska and South Dakota, while seeing smaller surplus values, had lower levels of per capita long-term liabilities than the other top performers. One of the top performers in fiscal year 2012, North Dakota, benefited from high oil prices and the development of oil shale resources in the state (Ustinova 2013).

The difference between the top performers in table 10 and the bottom performers in table 11 is striking.

Those with the weakest fiscal conditions in fiscal year 2012 saw decreases in net assets, operating ratios of less than one (meaning expenses that were higher than revenues), relatively low levels of cash, and higher-than-average long-term liabilities per capita.

## **Discussion**

This analysis ranks states based on four dimensions of fiscal condition as well as a comprehensive measure of fiscal condition. Besides the obvious contribution—who ranks at

the top and who ranks at the bottom—what can this analysis tell us about state fiscal conditions? One answer is that states vary, in some cases substantially, in the strength of their fiscal conditions.

The reason some states ended up with the lowest-ranked fiscal condition is beyond the scope of this analysis; however, exploring the circumstances resulting in poor fiscal conditions in California, Illinois, and New Jersey provides some context. Since a ranking requires, by definition, a top performer and a bottom performer, it is possible for a bottom performer to be only slightly less strong than a top performer. With fiscal condition, this is not the case. As tables 10 and 11 show, the bottom five performers had much weaker performance across nearly all the indicators, especially those related to cash, budget, and long-run solvency. Although the ranking represents a snapshot in time, the states at the bottom are there due to years of poor financial management decisions, bad economic conditions, or a combination of both. New Jersey and Illinois face similar problems of tax revenues that have not kept up with expenditures, use of budget practices that only appeared to balance their annual budgets, and significant debt levels as a result of decades of using bonds without being able to pay for them (State Budget Crisis Task Force 2012). In addition, both states have underfunded their pension systems, resulting in billions in unfunded liabilities.

In contrast, California is an example of a state that is improving its fiscal condition, but is still ranked near the bottom. For years, California was not able to produce a balanced budget, faced severe political gridlock, and was unable to raise revenues (State Budget Crisis Task Force 2012). After years of billion-dollar budget deficits, the 2013–2014 state budget has a projected surplus of at least \$1.2 billion (Nagourney 2013). Although this projection is not reflected in the fiscal year 2012 CAFR, and the extent to which it will be reflected in the fiscal year 2013 change



in net assets is unknown, it shows that improving a state's fiscal condition can be a slow and difficult process.

Ranking state fiscal conditions also highlights the importance of balance in state financial matters. Since fiscal condition is a multidimensional and multifaceted concept (Hendrick 2011), state policymakers must juggle short-term obligations with long-term obligations, and residents' needs for services with their demands for lower taxes. Ranking state fiscal conditions also underscores the extent to which the different dimensions of fiscal condition are interconnected. Using long-term debt to solve short-term cash deficiencies or budget imbalances, while potentially improving cash or budget solvency scores, will worsen long-run solvency. Similarly, reducing taxes may result in a higher service-level solvency score, but could result in problems with cash availability and with balancing expenses and revenues.

This analysis also demonstrates the difficulty and inherent subjectivity of assessing and ranking state fiscal conditions. Finding the correct mix of indicators to measure each aspect of solvency is more art than science, which is why this analysis relies on prior research to guide the construction of each solvency index. As discussed, there are legitimate concerns about how well the service-level solvency index, in particular, assesses states' ability to pay for their service obligations. Prior research and a review of the indices' time frames and measurement quality also guide the weighting that this analysis employs. Despite these difficulties, this index provides a transparent and literature-based ranking of state fiscal conditions.

## **Conclusion**

The purpose of this paper is twofold: first, to further the use of cash, budget, long-run, and service-level solvency indices to measure fiscal condition, and second, to rank states on the relative

strengths and weaknesses of their fiscal condition. In demonstrating the usefulness of the cash, budget, long-run, and service-level solvency indices, this paper also highlights that there is more than one way to measure state fiscal condition. The method advanced here has the advantage of relying on audited, publicly available data in addition to having an easily reproduced and transparent methodology that is open to all researchers. An important conclusion of this paper is that while rankings inherently have top performers and bottom performers, there is a substantial difference in state fiscal conditions. Some states, the top performers, are able to match revenues and expenses to achieve balanced budgets. These states also have enough liquid assets to pay their short-term bills on time as well as strategies to manage long-term liabilities. Other states, the bottom performers, have serious shortcomings in their management of at least one dimension of fiscal condition. For example, these states are unable to match revenues and spending levels, or they have used unsustainable strategies to manage long-term liabilities. Most states fall somewhere in the middle of the rankings, with neither overt weaknesses nor overt strengths.

Besides providing the basis for state rankings, the indices discussed in this paper could also be used to test the effect of fiscal institutions, such as balanced budget requirements and tax and expenditure limitations, on different dimensions of state fiscal condition. Analyzing state responses, such as the use of rainy day funds, to weak cash, budget, long-run, or service-level fiscal conditions, would provide an interesting perspective on how states respond to different aspects of weak fiscal condition. The ability to calculate these indices over several years and for all 50 states underscores the potential for their use in longitudinal analysis. Another area of research is to further test index reliability, particularly of the long-run and service-level solvency indices.

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**Table 1. Financial Indicators Used to Measure Fiscal Condition**

ID	Financial indicator	Definition	Meaning	Dimension
1	Cash ratio	(cash + cash equivalents + investments) / current liabilities <sup>(a)</sup>	Higher ratio indicates greater cash solvency	Cash
2	Quick ratio	(cash + cash equivalents + investments + receivables) / current liabilities	Higher ratio indicates greater cash solvency	Cash
3	Current ratio	current assets <sup>(b)</sup> / current liabilities	Higher ratio indicates greater cash solvency	Cash
4	Operating ratio	total revenues / total expenses	1 or above indicates budget solvency	Budget
5	Surplus (deficit) per capita	change in net assets / population	Positive ratio indicates budget solvency	Budget
6	Net asset ratio	restricted and unrestricted net assets / total assets	Higher ratio indicates stronger long-run solvency	Long-run
7	Long-term liability ratio	long-term (noncurrent) liabilities / total assets	Lower ratio indicates stronger long-run solvency	Long-run
8	Long-term liability per capita	long-term (noncurrent) liabilities / population	Lower value indicates greater long-run solvency	Long-run
9	Tax per capita	total taxes / population	Higher value indicates lower service-level solvency	Service-level
10	Revenue per capita	total revenues / population	Higher value indicates lower service-level solvency	Service-level
11	Expenses per capita	total expenses / population	Higher value indicates lower service-level solvency	Service-level

Notes:

(a) Current liabilities were classified for 24 states. Twenty-six states did not classify liabilities as current or noncurrent. Using the same method as Wang, Dennis, and Tu (2007), liabilities are assumed to be listed in order of maturity. Current liabilities as measured in this analysis do not include any liability items listed as or after noncurrent liabilities or long-term liabilities. Since states list different items as liabilities, the composition of current liabilities across states is not identical.

(b) Current assets were classified for 24 states. Twenty-six states did not classify assets as current or noncurrent. Using the same method as Wang, Dennis, and Tu (2007), assets are assumed to be listed in order of liquidity. In this analysis, current assets include assets listed before restricted or capital assets. Receivables include all items listed as receivable that are listed before restricted assets. Since states list different items as assets, the composition of current assets across states is not identical.

Source: Wang, Dennis, and Tu (2007, 8–9).

**Table 2. Descriptive Statistics for Fiscal Year 2012 Financial Indicators**

	N	Mean	Median	Standard deviation	Maximum	Minimum
Cash ratio	50	2.03	1.55	1.99	12.97	0.35
Quick ratio	50	2.87	2.12	2.14	13.33	0.87
Current ratio	50	3.07	2.31	2.13	13.45	1.09
Operating ratio	50	1.04	1.04	0.09	1.38	0.89
Surplus (deficit) per capita	50	364.20	182.55	1,018.59	5,263.50	-726.80
Net asset ratio	50	0.01	0.06	0.39	0.82	-1.33
Long-term liability ratio	50	0.41	0.30	0.39	1.96	0.04
Long-term liability per capita	50	\$2,689.10	\$1,890.05	\$2,028.54	\$8,035.70	\$296.80
Tax per capita	50	\$2,670.67	\$2,365.35	\$1,361.02	\$9,825.70	\$1,402.40
Revenue per capita	50	\$6,093.03	\$5,643.20	\$2,433.27	\$19,137.40	\$3,393.90
Expenses per capita	50	\$5,797.72	\$5,470.00	\$1,796.35	\$13,873.00	\$3,266.10

Note: Alaska keeps a large amount of cash on hand and has the maximum value for the cash, quick, and current ratios. Excluding Alaska from the calculation results in a cash ratio with a mean of 1.81, standard deviation of 1.23, maximum of 5.45, and median of 1.54. Without Alaska, the quick ratio has a mean of 2.66, a standard deviation of 1.53, a maximum of 7.06, and a median of 2.11. Similarly, without Alaska, the current ratio has a mean of 2.86, a standard deviation of 1.53, a maximum of 7.30, and a median of 2.30.

Source: Author's analysis of most recent CAFRs for all 50 US states.



**Table 3. Correlation Matrix for Financial Indicators within Each Solvency Index**

<b>Cash solvency</b>	Cash ratio	Quick ratio	Current ratio
Cash ratio	1.000	–	–
Quick ratio	0.975**	1.000	–
Current ratio	0.972**	0.995**	1.000
<b>Budget solvency</b>	Operating ratio	Surplus (deficit) per capita	
Operating ratio	1.000	–	
Surplus (deficit) per capita	0.846**	1.000	
<b>Long-run solvency</b>	Net asset ratio	Long-term liability ratio	Long-term liability per capita
Net asset ratio	1.000	–	–
Long-term liability ratio	–0.923**	1.000	–
Long-term liability per capita	–0.589**	0.792**	1.000
<b>Service-level solvency</b>	Tax per capita	Revenue per capita	Expenses per capita
Tax per capita	1.000	–	–
Revenue per capita	0.952**	1.000	–
Expenses per capita	0.906**	0.954**	1.000

\*\* Significant at a 99% level of confidence.

Note: When all financial indicators are correlated with each other, the highest statistically significant correlations are those within each solvency index. For example, the cash ratio is also correlated with other indicators including the operating ratio, surplus per capita, and net asset ratio; however, the highest correlation coefficients are with the quick ratio and the current ratio. This pattern holds for the other financial indicators as well.

Source: Author's analysis of the most recent CAFRs for all 50 US states.

**Table 4. Correlation Matrix for Cash, Budget, Long-Run, and Service-Level Indices**

	Cash	Budget	Long-run	Service-level
Cash	1.000	–	–	–
Budget	0.656**	1.000	–	–
Long-run	0.542**	0.476**	1.000	–
Service-level	–0.104	–0.328*	0.165	1.000

\*\* Significant at a 99% level of confidence; \* Significant at a 95% level of confidence.

Source: Author's analysis of the most recent CAFRs for all 50 US states.

**Table 5. Ranking of States by Cash Solvency (Fiscal Year 2012)**

Rank	State	Cash index	Rank	State	Cash index
1.	Alaska	15.25	26.	Vermont	-1.05
2.	Ohio	5.41	27.	New Mexico <sup>(a)</sup>	-1.13
3.	South Dakota	5.18	28.	New Hampshire	-1.14
4.	Florida	4.82	29.	Virginia	-1.14
5.	Montana	3.17	30.	Georgia	-1.15
6.	North Dakota	2.52	31.	Kentucky	-1.17
7.	Tennessee	2.31	32.	West Virginia	-1.17
8.	Wyoming	2.12	33.	Kansas	-1.36
9.	Nebraska	1.77	34.	Colorado	-1.39
10.	Alabama	1.32	35.	Minnesota	-1.50
11.	Utah	1.22	36.	New Jersey	-1.72
12.	Missouri	1.15	37.	Michigan	-1.72
13.	Washington	0.78	38.	North Carolina	-1.75
14.	Idaho	0.49	39.	Rhode Island	-1.77
15.	Delaware	0.42	40.	New York	-1.91
16.	Oklahoma	0.23	41.	Maryland	-1.91
17.	Iowa	0.07	42.	Texas	-1.95
18.	Arkansas	-0.01	43.	Wisconsin	-2.05
19.	Nevada	-0.08	44.	Massachusetts	-2.18
20.	Mississippi	-0.15	45.	Arizona	-2.30
21.	Louisiana	-0.22	46.	Maine	-2.41
22.	Indiana	-0.73	47.	Pennsylvania	-2.53
23.	Oregon	-0.88	48.	Connecticut	-2.57
24.	Hawaii	-0.91	49.	California	-2.58
25.	South Carolina	-1.04	50.	Illinois	-2.66

Notes: The cash solvency index is the sum of the standardized values of the cash, quick, and current ratios.

(a) As of August 31, 2013, New Mexico had not released its fiscal year 2012 CAFR. This analysis uses inflation-adjusted figures from New Mexico's fiscal year 2011 CAFR.

Source: Author's analysis of fiscal year 2012 CAFRs for all US states.

**Table 6. Ranking of States by Budget Solvency (Fiscal Year 2012)**

Rank	State	Budget index	Rank	State	Budget index
1.	Alaska	8.76	26.	Nevada	-0.25
2.	North Dakota	6.48	27.	New Hampshire	-0.25
3.	Wyoming	3.72	28.	Washington	-0.28
4.	Wisconsin	3.43	29.	Oregon	-0.30
5.	Utah	0.53	30.	Minnesota	-0.31
6.	Michigan	0.52	31.	Vermont	-0.47
7.	New Mexico <sup>(a)</sup>	0.51	32.	Alabama	-0.52
8.	Montana	0.50	33.	Indiana	-0.54
9.	Oklahoma	0.48	34.	Maine	-0.66
10.	Texas	0.45	35.	Missouri	-0.68
11.	Arizona	0.26	36.	Georgia	-0.70
12.	South Dakota	0.25	37.	Pennsylvania	-0.85
13.	Florida	0.24	38.	New York	-1.02
14.	South Carolina	0.19	39.	Arkansas	-1.07
15.	Idaho	0.15	40.	Massachusetts	-1.21
16.	Iowa	0.03	41.	Connecticut	-1.24
17.	Tennessee	-0.05	42.	Louisiana	-1.34
18.	Virginia	-0.06	43.	Maryland	-1.35
19.	Rhode Island	-0.11	44.	Kentucky	-1.37
20.	Colorado	-0.17	45.	California	-1.37
21.	Mississippi	-0.17	46.	Illinois	-1.37
22.	Ohio	-0.18	47.	Hawaii	-1.56
23.	Kansas	-0.20	48.	West Virginia	-1.79
24.	North Carolina	-0.21	49.	Delaware	-1.80
25.	Nebraska	-0.21	50.	New Jersey	-2.84

Notes: The budget solvency index is the sum of the standardized values of the change in net assets per capita and the operating ratio.

(a) As of August 31, 2013, New Mexico had not released its fiscal year 2012 CAFR. This analysis uses inflation-adjusted figures taken from New Mexico's fiscal year 2011 CAFR.

Source: Author's analysis of fiscal year 2012 CAFRs for all US states.

**Table 7. Ranking of States by Long-Run Solvency (Fiscal Year 2012)**

Rank	State	Long-run index	Rank	State	Long-run index
1.	Nebraska	8.77	26.	Michigan	-0.34
2.	Alaska	5.84	27.	West Virginia	-0.38
3.	Indiana	4.04	28.	Virginia	-0.39
4.	Tennessee	3.29	29.	Nevada	-0.46
5.	Alabama	3.12	30.	Pennsylvania	-0.54
6.	Wyoming	3.04	31.	Oregon	-0.57
7.	South Dakota	2.68	32.	Georgia <sup>(b)</sup>	-0.57
8.	Oklahoma	2.55	33.	New Hampshire	-0.58
9.	Montana	1.70	34.	Louisiana	-0.71
10.	Idaho	1.60	35.	Vermont	-1.13
11.	New Mexico <sup>(a)</sup>	0.82	36.	Ohio	-1.16
12.	Maine	0.80	37.	Florida	-1.19
13.	Iowa	0.75	38.	Wisconsin	-1.27
14.	North Dakota	0.71	39.	Delaware	-1.32
15.	Colorado	0.56	40.	Hawaii	-1.50
16.	Texas	0.55	41.	Washington	-1.55
17.	South Carolina	0.35	42.	Rhode Island	-1.62
18.	Kansas	0.25	43.	Maryland	-1.72
19.	Missouri	0.25	44.	Kentucky	-2.05
20.	Utah	0.21	45.	New York	-2.14
21.	Arkansas	0.11	46.	California	-2.67
22.	Arizona	-0.15	47.	Massachusetts	-3.58
23.	Minnesota	-0.19	48.	Connecticut	-3.80
24.	North Carolina	-0.22	49.	Illinois	-4.81
25.	Mississippi	-0.29	50.	New Jersey	-5.12

Notes: The long-run solvency index is the sum of the standardized values of the net asset ratio, long-term liability ratio, and long-term liability per capita.

(a) As of August 31, 2013, New Mexico had not released its fiscal year 2012 CAFR. This analysis uses inflation-adjusted figures taken from New Mexico's fiscal year 2011 CAFR.

(b) Oregon's long-run solvency score is -0.5657 and Georgia's is -0.5671. This is why Oregon is ranked 31st and Georgia is ranked 32nd, though the rounded scores are the same.

Source: Author's analysis of fiscal year 2012 CAFRs for all US states.

**Table 8. Ranking of States by Service-Level Solvency (Fiscal Year 2012)**

Rank	State	Service-level index	Rank	State	Service-level index
1.	Nevada	6.93	26.	Pennsylvania	-0.13
2.	Florida	4.61	27.	Michigan	-0.19
3.	New Hampshire	3.96	28.	Oregon	-0.45
4.	Missouri	3.81	29.	Illinois	-0.50
5.	Utah	3.78	30.	Maine	-0.83
6.	South Dakota	3.51	31.	California	-0.96
7.	Alabama	3.47	32.	Maryland	-0.98
8.	Georgia	3.09	33.	Washington	-1.00
9.	Tennessee	2.58	34.	Iowa	-1.01
10.	Arizona	2.31	35.	Wisconsin	-1.04
11.	Nebraska	2.30	36.	Arkansas	-1.17
12.	Texas	2.30	37.	West Virginia	-1.88
13.	Virginia	2.21	38.	Rhode Island	-1.91
14.	Colorado	1.98	39.	New Jersey	-1.99
15.	Oklahoma	1.74	40.	Minnesota <sup>(a)</sup>	-1.99
16.	Indiana	1.66	41.	New Mexico <sup>(b)</sup>	-2.87
17.	Idaho	1.62	42.	Hawaii	-2.94
18.	North Carolina	1.60	43.	Massachusetts	-3.27
19.	Ohio	1.08	44.	New York	-3.28
20.	Kansas	0.96	45.	Connecticut	-3.90
21.	Louisiana	0.86	46.	Delaware	-3.94
22.	South Carolina	0.40	47.	Vermont	-4.17
23.	Kentucky	0.39	48.	Wyoming	-4.27
24.	Montana	0.34	49.	North Dakota	-5.45
25.	Mississippi	0.30	50.	Alaska	-7.69

Notes: The service-level solvency index is the sum of the standardized values of tax per capita, revenue per capita, and expenses per capita.

(a) New Jersey's service-level solvency index score is -1.9866 and Minnesota's is -1.9894. This is why New Jersey is ranked 39th and Minnesota is ranked 40th, though the rounded scores are the same.

(b) As of August 31, 2013, New Mexico had not released its fiscal year 2012 CAFR. This analysis uses inflation-adjusted figures taken from New Mexico's fiscal year 2011 CAFR.

Source: Author's analysis of fiscal year 2012 CAFRs for all US states.

**Table 9. Ranking of States by Fiscal Condition (Fiscal Year 2012)**

Rank	State	Fiscal condition index	Rank	State	Fiscal condition index
1.	Alaska	8.80	26.	New Mexico <sup>a</sup>	-0.34
2.	South Dakota	2.79	27.	Kansas	-0.40
3.	North Dakota	2.75	28.	Georgia	-0.45
4.	Nebraska	2.53	29.	Arkansas	-0.47
5.	Wyoming	2.23	30.	Michigan	-0.51
6.	Florida	1.99	31.	Arizona <sup>b</sup>	-0.51
7.	Ohio	1.71	32.	Oregon	-0.57
8.	Tennessee	1.71	33.	North Carolina <sup>c</sup>	-0.57
9.	Montana	1.66	34.	Louisiana	-0.60
10.	Alabama	1.25	35.	Minnesota	-0.87
11.	Utah	1.03	36.	Maine	-1.00
12.	Oklahoma	0.93	37.	Delaware	-1.14
13.	Idaho	0.70	38.	Vermont	-1.17
14.	Missouri	0.60	39.	Rhode Island	-1.18
15.	Indiana	0.53	40.	Kentucky	-1.26
16.	Nevada	0.49	41.	West Virginia	-1.30
17.	Wisconsin	0.12	42.	Pennsylvania	-1.31
18.	Iowa	0.09	43.	Hawaii	-1.46
19.	Mississippi	-0.14	44.	Maryland	-1.59
20.	Texas	-0.18	45.	New York	-1.78
21.	South Carolina	-0.19	46.	California	-2.01
22.	New Hampshire	-0.21	47.	Massachusetts	-2.23
23.	Washington	-0.23	48.	Illinois	-2.42
24.	Colorado	-0.24	49.	Connecticut	-2.48
25.	Virginia	-0.28	50.	New Jersey	-2.81

Notes: The fiscal condition index is the sum of the cash, budget, long-run, and service-level solvency indices weighted as follows:  $(0.35 \times \text{cash solvency score}) + (0.35 \times \text{budget solvency score}) + (0.2 \times \text{long-run solvency score}) + (0.1 \times \text{service-level solvency score})$ .

(a) As of August 31, 2013, New Mexico had not released its fiscal year 2012 CAFR. This analysis uses inflation-adjusted figures taken from New Mexico's fiscal year 2011 CAFR.

(b) Michigan's fiscal condition score is -0.5081 and Arizona's is -0.5103. This is why Michigan is ranked 30th and Arizona is ranked 31st, though their rounded scores are the same.

(c) Oregon's fiscal condition score is -0.5705 and North Carolina's is -0.5721. This is why Oregon is ranked 32nd and North Carolina is ranked 33rd, though their rounded scores are the same.

Source: Author's analysis of fiscal year 2012 CAFRs for all US states.

**Table 10. Descriptive Statistics for the Top Five Performers in Fiscal Condition Solvency**

	Alaska	South Dakota	North Dakota	Nebraska	Wyoming	State mean
Cash ratio	12.97	4.81	3.06	3.15	3.84	<b>2.03</b>
Quick ratio	13.33	6.96	5.09	4.25	4.21	<b>2.87</b>
Current ratio	13.45	7.06	5.13	4.27	4.33	<b>3.07</b>
<b>Cash solvency</b>	<b>15.25</b>	<b>5.18</b>	<b>2.52</b>	<b>1.77</b>	<b>2.12</b>	<b>0.00</b>
Operating ratio	1.38	1.07	1.36	1.04	1.24	<b>1.04</b>
Surplus (deficit) per capita	\$5,263.50	\$278.00	\$3,181.20	\$163.80	\$1,791.60	<b>\$364.20</b>
<b>Budget solvency</b>	<b>8.76</b>	<b>0.25</b>	<b>6.48</b>	<b>-0.21</b>	<b>3.72</b>	<b>0.00</b>
Net asset ratio	0.82	0.28	0.51	0.26	0.67	<b>0.01</b>
Long-term liability ratio	0.04	0.10	0.18	0.04	0.07	<b>0.41</b>
Long-term liability per capita	\$3,748.00	\$769.70	\$4,111.00	\$296.80	\$2,570.90	<b>\$2,689.10</b>
<b>Long-run solvency</b>	<b>5.84</b>	<b>2.68</b>	<b>0.71</b>	<b>8.77</b>	<b>3.04</b>	<b>0.00</b>
Tax per capita	\$9,825.70	\$1,597.40	\$5,637.40	\$2,288.30	\$4,904.50	<b>\$2,670.67</b>
Revenue per capita	\$19,137.40	\$4,496.70	\$11,744.90	\$4,352.90	\$9,108.80	<b>\$6,093.03</b>
Expenses per capita	\$13,873.00	\$4,218.70	\$8,613.30	\$4,199.00	\$7,317.20	<b>\$5,797.72</b>
<b>Service-level solvency</b>	<b>-7.69</b>	<b>3.51</b>	<b>-5.45</b>	<b>2.30</b>	<b>-4.27</b>	<b>0.00</b>

Note: Each solvency score is the sum of the standardized values of the preceding financial indicators. For example, cash solvency is composed of the standardized values of the cash, quick, and current ratios.

Source: Author's analysis of the most recent CAFRs for all US states.

**Table 11. Descriptive Statistics for the Five Lowest Performers in Fiscal Condition Solvency**

	New Jersey	Illinois	Connecticut	Massachusetts	California	State mean
Cash ratio	0.69	0.46	0.35	0.67	0.55	<b>2.03</b>
Quick ratio	1.83	0.87	1.09	1.37	0.88	<b>2.87</b>
Current ratio	1.89	1.09	1.16	1.39	1.15	<b>3.07</b>
<b>Cash solvency</b>	<b>-1.72</b>	<b>-2.66</b>	<b>-2.57</b>	<b>-2.18</b>	<b>-2.58</b>	<b>0.00</b>
Operating ratio	0.89	0.97	0.98	0.98	0.97	<b>1.04</b>
Surplus (deficit) per capita	-\$726.80	-\$184.10	-\$168.00	-\$136.60	-\$182.30	<b>\$364.20</b>
<b>Budget solvency</b>	<b>-2.84</b>	<b>-1.37</b>	<b>-1.24</b>	<b>-1.21</b>	<b>-1.37</b>	<b>0.00</b>
Net asset ratio	-1.33	-1.26	-0.83	-0.77	-0.49	<b>0.01</b>
Long-term liability ratio	1.96	1.47	1.28	1.41	0.81	<b>0.41</b>
Long-term liability per capita	\$7,935.60	\$5,414.40	\$8,035.70	\$5,798.50	\$4,278.00	<b>\$2,689.10</b>
<b>Long-run solvency</b>	<b>-5.12</b>	<b>-4.81</b>	<b>-3.80</b>	<b>-3.58</b>	<b>-2.67</b>	<b>0.00</b>
Tax per capita	\$3,008.20	\$2,794.90	\$4,062.30	\$3,220.40	\$2,740.60	<b>\$2,670.67</b>
Revenue per capita	\$6,180.60	\$5,368.90	\$7,961.30	\$7,754.80	\$5,746.40	<b>\$6,093.03</b>
Expenses per capita	\$6,907.40	\$5,553.10	\$8,129.60	\$7,891.40	\$5,928.70	<b>\$5,797.72</b>
<b>Service-level solvency</b>	<b>-1.99</b>	<b>-0.50</b>	<b>-3.90</b>	<b>-3.27</b>	<b>-0.96</b>	<b>0.00</b>

Note: Each solvency score is the sum of the standardized values of the preceding financial indicators. For example, cash solvency is composed of the cash, quick, and current ratios.

Source: Author's analysis of the most recent CAFRs for all US states.